

IV. *The Abstract of two Letters sent some time since by Mr. Anth. Van. Leeuwenhoeek to Dr. Gale and Dr. Hooke.*

HAVING examined the *Testicles* of a *Rat*, and the Liquor press'd out of the *Seminal Vessels* thereof, I found a great number of *Amalcules* long and serpent-like, as is represented *Fig. 4.* which shews one of them dead. The Liquor it self in which they floated was transparent and oily, full of irregular Parts, besides the *Amalcules*, some whereof lay turned up round, and seemed not to be full grown or living ; and I conceived the irregular Particles were the Beginnings or Rudiments of these *Animalcules* which were generated in the Thred-like Vessels of the *Testicles*. I suppose the manner of their *Generation* differs from that of the Eels I have formerly observed in Vinegar, which carry their Young in their Body, whereas I believe these are produced from an Egg. And possibly they may have their beginning with the Generation of the Animal, and come to perfection together with it, remaining in the Seed in the *Testicles* in *Fieri*, till the Animal it self is fit for Copulation ; as in Man till about Fourteen Years, and then first have Life and Perfection.

The particular Coat of these *Thred-like Vessels* is exceeding thin ; and the *Amalcules* therein contained so very minute, that 10000 of them equal not one *Thred* ; whence may be computed the vast number one *Testicle* is capable of containing. These *Threds* are more conspicuous in the Testicle of a *Rat* than any Animal.

Endeavouring to examine the *Seed* of *Muscles* in *March* when they spawn, I was somewhat prevented ; only in the Liquor contained in their Shells, I found

many

many small living Animals; and the *Muscle* it self had two thin Films, consisting of long slender *Threds*, with little knobby parts thereon, something like the Beards or Fins of *Oysters*, but were more easily separable from the Fish: These Strings were thick beset with Hairs continually moving; and through the *Threds* themselves I saw a great number of small *Animals*.

In the Liquor in *Oysters* I found several sorts of *Amalcules*, but in their Beards or Gills none, possibly because the *Oysters* were dead.

Examining the *Sap* that bleeds from *Vines*, I found therein several *Amalcules* of different sizes, such as I had formerly observed in Water. And I suppose that the Sun may have raised the very small *Eggs* of these *Amalcules*, and let them fall in Dew or Rain on the out-sides of *Vines* which stopt by the Leathers that fasten them to the Wall, are there hatch'd and carried down with the trickling *Sap*, which I am confirmed in, by reason after Rain I found of these *Amalcules* in the Water so stopt by the Leathers; and at other times I have found no *Amalcules* in the *Sap* of *Vines*.

I have sometimes found in this *Sap* an *Aurelia*, such as *Fig. 5.* but a Million of times smaller than a course Sand. Some of these I brought home, but those in the Air dried up to nothing, and some that I kept in Water were lost.

V. Some Observations in the Dissection of a Ratt, communicated by Mr. R. W. S.R.S.

THE *Fore-Fet* of a Rat resemble those of the *Castor*. The *Hair* is also some Fine, some Course; as in that *Animal*. The *Tail* scaly, with Hairs between every

